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# SCHOOL AND SOCIETY

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## SPECIAL APPLICATIONS OF THE SCIENTIFIC METHOD TO EDUCATIONAL MEASUREMENTS[1]

One principle of the scientific method is clear definition of the terms employed.

*What should be included in the field of educational measurements?*

Professor Thorndike has said that "to measure a product well means so to define its amount that competent persons will know how large it is, with some precision, and that this knowledge may be conveniently recorded and used."[2] This seems to be entirely adequate as a statement of how to measure a mental characteristic or any other.

I desire to confine this discussion to those devices that attempt to measure the activities and products of school pupils. Many valuable and interesting measurements are being made of school buildings, equipment, organization, finance and the like, but to include such items in this discussion would require more time and perhaps more ability than I can command. The field of educational measurements to which I shall confine my remarks is, then, that portion of the total educational field in which from time to time teachers, supervisors and administrative officers attempt to determine and to record or report the amount of some condition, characteristic or quality present in school pupils or in their products.

[1] Presented before Section Q of the American Association for the Advancement of Science, Washington, D. C., December 30, 1924.

[2] E. L. Thorndike, "The nature, purposes and general methods of measurements of educational products," Seventeenth Yearbook of the National Society for the Study of Education, Part II, page 16.

*What should be included in the scientific method?*

An examination of the statements made by some of our most thoughtful educators, and an analysis of the replies of various scientific workers to the question, "What is the scientific method?" led me to adopt for the purposes of this discussion a fourfold statement of what that method involves. I shall mean therefore to include in the term *scientific method* certain characteristic attitudes or moral qualities in the investigator, certain definite characteristics in his data and conclusions, and certain logical steps in his thought processes, as well as the specific activities called "observation" and "experimentation," which constantly characterize his professional life.

A casual visitor to the laboratory of one employing the scientific method of arriving at truth would probably report that the method consisted in making an infinite number of records of observations and experiments. Important as these records are, however, their collection constitutes only a part of the scientific method. The data recorded by one employing the scientific method are as precise and as objective as it is possible for him to obtain. Records made by the casual visitor would probably be of little scientific value, for they would lack the precision and the objectivity necessary in scientific work. Furthermore, the scientific method undertakes to facilitate the work of later investigators, who may wish to verify either the data or the conclusions, by revealing the sources of the data and the course of reasoning employed in reaching the conclusions. Both the data and the conclusions must be recorded in quantitative form, as definite amounts of

correspondence, of change, or of other measurable characteristics.

The scientific method involves not only precise, objective data obtained by observation and experimentation, but also a characteristic program of mental activity with these data as the materials of reflection. Professor Dewey's analysis, in "How We Think," is perhaps a better statement of this program than I can give, but I wish to emphasize as distinct two or three movements which he combines into a single step. First of all there must be a recognition that some fact is unexplained, unclassified, or in need of scientific proof. This recognition is followed by an analysis of the apparently simple fact into what may be thought of as its component parts. Attention is then given, during further observations and experiments, to each of these parts in turn in order to determine its exact behavior or its own peculiar effect on the situation. The next step is one of imaginative synthesis or generalization in which a tentative hypothesis or conclusion is formed. This is followed by a period of testing and verification in which the hypothesis is subjected to deductive reasoning or analysis. "If this is true," the scientist reasons, "these other phenomena should be present." If these other phenomena are found to exist, the conclusion grows in strength, while if they are not found the hypothesis is modified or abandoned in favor of others which may prove to be more fruitful.

The observation and experimentation characteristic of the scientific method are concomitant with the alternating mental processes just described. The various steps in the thought process, ending with the verification or rejection of a conclusion, are the inner aspects, one might say the heart and circulatory system, of the scientific method, of which observation and experiment are the outer aspects—the visible parts of its body. Observation and experiment supply the precise, objective data—the tissues and framework—of the scientific method. Experimentation, collection of data and reflective thought all occur at the same time and are merely different aspects of the same research activities of the scientist.

There remains another important factor which I should like to include in my conception of the scientific method: the character or attitude of the investigator. If I were to continue the analogy used above, I should say that the attitude or character of the investigator might be thought of as the life or vital principle in the body of scientific method. One who would use this method must first of all be honestly seeking the truth. The final result must be of less vital concern to him than the validity of the methods by which it is obtained. Scientific imagination, open-mindedness, impartiality and freedom from hopes, fears and superstitions are necessary characteristics, and here I should like to claim them as integral parts of the scientific method itself. Whether these characteristics are inherited or acquired does not change the fact that they are essential in the successful use of the method.

As far as this discussion is concerned, then, the scientific method, consisting in a characteristic alternation of inductive and deductive reasoning, leads from a recognition of need for explanation or proof, through tentative hypotheses, to final testing and verification, and uses as materials of reflection the precise, objective data obtained from observation and experimentation—the entire process being conducted by an impartial, open-minded seeker of the truth.

*Use of educational measurements is not the scientific method.*

If one accepts this statement of what constitutes the scientific method and the preceding characterization of educational measurements, it will be obvious that the

making of educational measurements, even when the most highly standardized scales are employed, is not identical with the use of the scientific method in education. It will also be obvious to the thoughtful that educational measurements have a very important function in the scientific method when that method is applied to problems involving the educational status or achievements of students. Measurements are the technical instruments by which an investigator may obtain precise, objective data from his observations and experiments to be used in his scientific thought processes. Measurements make possible the application of the scientific method to educational problems, but the making of educational measurements is far from being identical with use of the scientific method.

The educational world contains many persons who do not recognize this distinction. Throughout the United States there are hundreds of teachers, supervisors and administrative school officers who boast of their modern scientific methods, but whose only claim to the use of such methods is that they occasionally give standard tests. Some scientific workers have expressed fear that these tyros may injure the science of education. Personally I have no such fear. There are in every field of science large numbers of people who lay claim to scientific methods and skill, but who have acquired only a few of its tools or a part of its vocabulary. These persons sometimes receive greater public recognition and remuneration than the real scientists, but such conditions are only temporary. In many cases these pseudo-scientists learn by experience that they have been deceiving themselves and set out to become real scientists. Many of us, I dare say, were more voluble in our claims for educational measurements when we first began to study them than we have been since that time.

If the scientific method when applied to educational problems is something which involves or includes educational measurements, how may one logically discuss the application of this method to that which is only a part of itself? This apparent difficulty is perhaps only verbal. At any rate, I propose to discuss briefly the implications of the scientific method for certain problems of educational measurements.

I. *What does the scientific method imply as to the use of educational measurements?*

The scores supplied by educational measurements give precise, objective answers to specific questions regarding the amounts of knowledge, skill or appreciation demonstrated at a given time by a particular group of school pupils. These scores supply the scientific method with the very materials which enable it to live and to function in education. One implication of this method, therefore, is that educational measurements should be used in response to recognized needs for educational data. To employ measurements out of idle curiosity or merely for the purpose of making an impression on the public (or board of education, or fellow members of the faculty) is a stupid waste of valuable time and energy. There are so many vital problems in every school calling for immediate solution that tests (even the home-made variety) ought not to be administered except for the purpose of obtaining data to be used in improving school conditions or practice.

Another implication of the scientific method is that the particular tests and scales selected for use in any situation should be as well adapted as possible to their purpose in that situation. This proposition seems so self-evident that it should not be necessary even to state it. Each one of us finds every year, however, numerous instances in which some one has wished to measure a particular quality but has employed a scale that measured a wholly different quality. For some reason or other, many school officers have failed to learn

that one test measures the speed at which a pupil reads equally difficult passages, while another measures the difficulty of the hardest passage the pupil can read. As long as it is labeled "Reading Test," the average teacher makes little distinction between one that tests ability to understand isolated words and one that tests ability to understand complete paragraphs. Scientific method would demand in each case the use of the most appropriate measuring instrument obtainable for the purpose to be served.

Furthermore, scientific method would suggest that after an appropriate test had been chosen and used to obtain objective data on an educational condition, the scores obtained should be used as a basis for the characteristic reasoning processes of science. If I may borrow a descriptive phrase from the game of golf, many would-be educational scientists "do not follow through." By the time their observations and records have been made, some more attractive activity is sighted in the distance, and they hurry off in pursuit of it. A sufficient number of standard tests have been administered in the past ten years to have solved more than half of the instructional problems of which we have any knowledge, if only the right tests had been given at the right time and the scores used as the basis for reflective reasoning of the type required in the scientific method.

II. *What does the scientific method imply as to the interpretation of educational measurements?*

Analysis of what appear to be simple situations into their component parts is one of the first important steps in the reasoning process characteristic of the scientific method. This method applied to educational measurements would involve similar analyses and a recognition of the limitations of each test and scale employed. One trained in the scientific method would quickly distinguish between scales which vary in their degree of dependence upon the judgments of their users. The scientific method would, other things being equal, give greater attention to the results obtained from a test having only one uncontrolled variable than it would give to the results of one in which there were two or more such variables. A scientific interpretation of educational measurements must involve a full recognition of the limitations of the specific scales and tests employed.

Scientific method would also require that the reasoning employed in the interpretation of educational measurements be logical and direct. It would be possible to quote many examples of indirect and illogical interpretations that have been given to relatively simple scores from educational tests. A few speakers and writers seem to imagine that so long as they preface their remarks by quoting medians and coefficients of correlation, or by showing frequency tables and charts, they are at liberty to reach any conclusion they desire. The scientific method requires common sense and logic in the interpretation of educational measurements as well as in the interpretation of phenomena in the physical world.

Science as a body of systematized knowledge is being continually augmented and modified by the activity of investigators employing the scientific method. As more adequate scales for measuring smaller elements in educational achievement become available, many valid interpretations of scores from our present measuring instruments will of necessity be modified and possibly rejected. This certainty of future changes in the interpretation of our measurements should in no way prevent us from following carefully the most reliable evidences we can now obtain regarding the way of educational truth.

III. *What does the scientific method imply as to the derivation of educational measuring instruments?*

The majority of the teachers and school officers who now employ and who will continue to employ educational measurements are perhaps not capable of carrying on abstract thinking of a high order. The only sense in which many of them could employ the results of their tests in the thought processes of the scientific method would be a mechanical sense. If some one will only give them a simple formula in which they can substitute the scores obtained from their tests, most of them will be able to work out graphically or mathematically an index of classification or a coefficient of educational efficiency.

This lack of scientific ability in the average teacher places a heavy responsibility on those who are developing and guiding educational measurements. The formulae and suggestions for use published by the authors of educational tests must be as nearly "fool-proof" as possible. They must not suggest greater accuracy than the tests really possess. They should not provide elaborate systems of mathematically derived indices which will carry the original scores far beyond the point where any reasonable degree of reliability may be attached to them.

I doubt whether the time will ever come when it will be possible to say truthfully that all the results of instruction may be measured accurately. For every problem which educational measurements have aided in solving, they have brought to light at least two problems which had previously been unknown. Each effort to construct a satisfactory scale to measure some particular phase of pupils' achievements has brought to light previously unrecognized phases of achievement in the same subject. Progress in every science has come about by thus breaking up apparent wholes into their parts and then recognizing the fact that these parts possessed interrelations and were grouped in families which had previously not been recognized.

It was only natural that our first efforts at educational-scale making should have been crude. We attempted to measure reading, or spelling, or arithmetic, for these were the subjects being taught. Now we are beginning to break up the various subjects into their elementary parts and to measure these elements as accurately as possible. In this we are following the scientific method closely. Instead of measuring the general health of our patients, we are now beginning to measure the strength of their specific symptoms. If we later find that there is a real need for a general health index, or for a general index of reading efficiency, we can combine the records of certain specific tests and obtain it. Our early tests of reading measured an irregular and unknown mixture of many different elements (some of which were not reading at all), but when we make up a new composite index of reading efficiency from the records of tests in the different phases of the reading process, we shall be able to determine consciously and more or less intelligently just what elements of reading ability to include and what weight to give each one.

The scientific method applied to test derivation involves much painstaking labor and experimentation. There is no certain way to learn what will happen when pupils of a given age meet a given problem but to "try it out." The scientific method furthermore implies the publication of one's data for the benefit of those who may wish to verify the findings or to build further investigations and refinements upon them. It involves testing the reliability and validity of the resulting test or scale in exactly the same manner as one would test and verify any other scientific conclusion. It implies giving assent to and making use of the resulting scale only

until a better one has been produced to serve the same purpose. The real scientist is not satisfied with any tool less adequate than the best he can obtain for his purpose.

Following the scientific method will require that we never cease trying to improve our methods of deriving educational scales and tests. One who claims to have developed a perfect scale serves notice by that claim that he has abandoned the scientific method, for that method looks constantly and optimistically to the future with assurance that the best is yet to come.

IV. *What does the scientific method imply as to the training of those who are to direct educational measurements?*

The question was raised in a previous paragraph as to whether the average teacher can be taught to employ the thought processes characteristic of the scientific method. This question must for the present remain unanswered, for the attempt to teach the scientific method of acquiring truth has not yet been made sufficiently general to supply a reliable answer. In the science courses of our schools, as well as in history and English courses, the pupils get the impression that the facts in the book are the important things to learn. Even in our science laboratories the exercises are all worked out for the pupils to follow mechanically. The idea that the scientific method is more important than its results seems to depart from the minds of even our best scientists when they turn from their investigations to their classrooms. Perhaps the time will come when a sufficiently comprehensive experiment will have demonstrated scientifically whether or not average people can be taught to use the scientific method successfully. In the meantime we must do what we can to train in this method the few who are to direct educational research and measurements.

In order to avoid wasted effort, the age-old expedient of the schools may be used: we may select those who have natural gifts and qualifications for the task for which we would fit them. Facility in carrying on abstract thought is one characteristic that would certainly be valuable in one who is to be trained to use the scientific method. Three other characteristics seem to me to be important when selecting persons to be trained in the scientific method: honesty, imagination and independence. The scientific method requires that facts be studied and presented with an impersonal honesty. It also requires imagination, with a fearlessness and independence of spirit which make the possessor willing to follow any hypothesis to its proof or refutation.

The mental habit of alternating between analysis and synthesis in the manner characteristic of scientific inquiry can probably be developed by appropriate training and experience. Similarly the habit of withholding judgment until all the available facts have been collected and weighed can doubtless be developed by practice. But experience and practice in these matters will need to be consciously provided, for even our best courses and text-books in educational measurements assume that their function is to give the conclusions of someone's thought rather than to provide materials for the exercise of the student's own mental apparatus.

In concluding this discussion of the applications of the scientific method to educational measurements, let me call attention again to the fact that the most fruitful use of educational measurements is their employment as technical instruments for obtaining precise, objective data in investigations conducted according to the scientific method. Instruments for making educational measurements must be devised and applied in accordance with the methods of science if we are to obtain important values from them. Perhaps the need of those who are to direct educational measurements for

thorough training in the scientific method is as vitally important as any other item suggested by the topic assigned me for discussion.

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## POSSIBILITIES OF INDIVIDUALIZED INSTRUCTION IN SMALL HIGH SCHOOLS[1]

I DEAL with two related thoughts in this paper. The first: There is a need for something other than what *is* with regard to the small high school situation. The second: Individualizing instruction is probably the best suggestion yet made through which what is needed may be brought into being.

Concerning the first thought I am *sure* of my ground, and I give considerable space to its unfoldment. Concerning the second thought I *think* available facts warrant the contention.

### THE NEED FOR SOMETHING OTHER THAN WHAT IS

The present demand is that secondary schools serve all children of secondary school age according to life needs arising because of individual nature and because of the nature of the social order. We are asked to educate all children. Psychologists have established the fact of individual differences in ability to learn. Our industrial social order grows more complex daily. The demand for education adapted to individual need in view of psychological traits and in view of specific life purposes, therefore, is a large order. A permutation formula applied to an infinite series is suggested.

Bearing this demand in mind let us examine our national small high school establishment.

More than 11,000 of the 14,000 public high schools reporting to the United States Bureau of Education for 1922 are located in villages of less than 2,500 total population or in the open country. These schools enrolled a total of 775,000 pupils and an average of 69 pupils per school. They employed a total of 45,000 teachers and an average of four teachers per school. The average teacher-pupil ratio was one to seventeen.

In 1922 Dr. Emery N. Ferriss, in cooperation with the Bureau of Education, made a nation-wide study, now in press, of the rural high school. For purposes of this study a rural high school was defined as one enrolling more than 50 per cent. of its total from farm homes. Thus defined, the resulting group of schools maintain an average enrollment of forty-five. The median school employs three and one half teachers. The teacher-pupil ratio is one to thirteen. The model class group contains six to ten pupils, the median class eleven pupils. Thirty-two per cent. of these schools transport pupils by auto truck, 14 per cent. transport by horse-drawn conveyance and an additional 11 per cent. use other forms of paid transportation. The median daily teaching load is fifty pupil hours, about one third the normal load. Sixty-eight per cent. of teachers teach only part time in their major field of preparation and 16 per cent. teach no subjects in their major field of preparation. Fifty per cent. of teachers have majored in English, mathematics and Latin; 11 per cent. in history; less than 10 per cent. in the natural sciences; 2.3 and 2.6 per cent., respectively, have majored in home economics and agriculture. None have majored in social sciences other than history. In the field of the program of studies and curricula, 50 per cent. of the four-year schools offer sixteen subjects

[1] Address before the conference on individualized instruction, held jointly by the U. S. Bureau of Education and the University of Pennsylvania Schoolmen's Week, Philadelphia, March 27, 1925.

only and more than 50 per cent. of the schools employing four teachers or less offer only an academic curriculum.

The national small high school establishment is not a pigmy, even if outstanding men in secondary education have given it scant attention. It is evident that, despite extensive centralization, which is indicated by the fact of paid transportation in 57 per cent. of these schools, we have yet to contend with several thousand high schools enrolling less than fifty pupils each and probably 10,000 schools enrolling less than one hundred pupils each. It is further evident that a majority of teachers, meager as their training is generally, are teaching now in fields outside their major field of preparation. These schools also, are yet traditional college preparatory high schools, putting all pupils through the same courses in English grammar and the history of literature, formal mathematics, chronological history and occasional science of a kind.

Can they do otherwise? Let us see what happens when these schools attempt to meet the broadened demands made of secondary education. I deal first with costs. Charles W. Hunt shows for the state of New York a median cost per pupil of $205 in schools enrolling one to twenty-five pupils, as compared with $112 for schools enrolling 251 to 300 pupils. Bear in mind that this median school has not yet been reorganized in line with current demands. Cubberley and Sears report for California that high schools of five teachers or less cost $294 per pupil as compared with $194 for schools of twenty or more teachers. Floyd W. Reeves reports costs per pupil in four-year township and community high schools of Illinois of $183 for schools enrolling one to forty-nine pupils as compared with $113 for schools enrolling 200 to 499 pupils. The state of Virginia reports that high schools enrolling thirty-five to fifty pupils cost 69 per cent. more per pupil for instruction than schools enrolling 200 to 300 pupils. The state superintendent of Arizona reports a per pupil cost in the median high school enrolling less than fifty pupils of $332.53 as compared with a median cost of $246.78 for larger schools.

Now these median costs cited do not tell the whole story. The comparative range of costs is much more significant and I present a single typical case. The study by Hunt, referred to above, shows a range of costs in New York high schools in places of 2,500 to 5,000 of $62 to $1,107. The range given for cities of 100,000 to 300,000 is from $155 to $165; for cities of 50 to 100 thousand, $114 to $167; for cities of thirty to fifty thousand, $93 to $167; and for cities of ten to thirty thousand, $68 to $332. The school costing $1,107 per pupil had doubtless been reorganized. Such schools can be easily found operating at costs of six to eight hundred dollars per pupil.

Not only does the attempt to meet current demands, patterning in organization after large schools, result in unbearable costs, but other evils, near evils and problems arise. Among these may be cited overloading teachers of required courses in order that electives may be offered to a few pupils, shortening recitation periods in order to schedule courses within the school day, assigning teachers with a full load in required courses to additional elective courses in fields where they have had little or no training, offering courses on any number of days per week and combining classes or alternating courses.

Now I think I have shown the necessity for something other than what is in the field of the small high school. Either the small high school is not meeting current demands or it is operating at unbearable costs. The high percentage of the total of high schools of the nation which are small high schools makes this cost situation a matter of national concern. We must

educate children in regions of sparse population. We can not always centralize. We can not afford the costs imposed by offering education suited to needs, or if we can afford it we can not get the amount of money demanded should wholesale reorganization get under way. Let us, then, examine some of the possibilities of breaking, in small high schools, with common practices in internal organization such as individualized instruction implies. I should say here that I am dealing with individualized instruction primarily from the point of view of administration and not from the point of view of teacher-pupil relations.

The cost situation which arises when small high schools attempt to broaden their offerings is due primarily to the fact that the teacher-pupil ratio is always narrowed. If administrative adaptation to individualized instruction can make it possible to broaden the school program without narrowing this ratio materially, the problem is solved. Let us theorize concerning a particular situation. I have in mind a county in a South Atlantic state that for several years has been operating eleven accredited four-year high schools. Last year the school term was reduced from eight to six months, the schools removed from the state accredited list as a result, state apportionment to accredited high schools was lost, cheap teachers were employed and the schools generally became mere gestures at secondary education. This was forced, because having maintained for some years the legal tax limit, debt had nevertheless piled up until bankruptcy resulted.

The largest of these schools enrolled 123 pupils. The smallest enrolled 28. The total enrollment for the eleven schools was 765, or an average enrollment of 69. A total of 47.5 teachers were employed. The teacher-pupil ratio was one to sixteen. The schools offered only those subjects prescribed by the state as a minimum for high-school graduation. All pupils thus were given identical subject-matter.

Now suppose in place of these 47.5 teachers we provide a county director of secondary education, a county staff of subject-matter specialists; one for each of the fields of English, foreign language, mathematics, social studies, science, home economics, agriculture, industrial arts, fine arts, music and health. This gives a staff of twelve. Now let us provide at each school center a man of excellent general training such as is provided by a liberal arts college training comprehending the degree B.A. with an additional year, as a minimum, of graduate study largely of a professional nature. This brings our total professional staff up to twenty-three. Now we will add at each school center enrolling more than forty pupils a good secretary-librarian. This adds nine to the payroll and makes a total staff of thirty-two. In the schools fixed recitation periods are discarded. The county subject-matter specialists prepare, under the direction of the county director, job outlines, contracts, or what you will, for units of work in their respective fields. These unit outlines give definite reading references, laboratory or shop directions complete for the unit of work. The specialist who is responsible for the particular unit of work goes to each school center and starts the pupils who take this unit of work on their task. The local principal is present at the conference where assignments are made. The specialist moves on to the next center. The pupil works at his own rate under the individual guidance of the local principal and his librarian-secretary assistant. The specialist returns in one, two or three weeks for conferences, testing or new assignments. If we rotate these specialists we may always have a minimum of one man with excellent general training, a man with excellent training in a special field and a good librarian at each center. Within a period of two weeks we may have

in each center a man of excellent general training and a man of excellent special training for each of the fields of the secondary program of studies. If through centralization we reduce the number of centers there will be a corresponding increase in the number of specialists in a given center at a given time. If we assemble pupils who are working at the same tasks, weekly or biweekly or whenever desired, at a few centers for conference purposes the same effect may be had. Instead of pupils being subjected alike to a uniform academic curriculum each one may work upon problems in any of the fields of secondary education, so selected and planned that the outcomes desirable for him as an individual may be definitely sought.

If it be objected that this is a dream of pure fancy, I point out that we have long had itinerant teachers of music, art and vocational subjects and itinerant special supervisors. We have long had just such unit assignments in vocational agriculture and shop work; we have the example in numerous schools, large and small, of successful discarding of fixed class periods and of pupils working at their own pace over periods of several days with no more guidance than is available here.

If it be objected that a man with general training can not give the guidance needed during the absence of specialists, I point out that he has the benefit of specific planning of the unit of work by a specialist. As the situation now is the teacher in small high schools with comparatively little training commonly teaches without such aid in fields where he has had little or no training.

Undoubtedly the possibilities of offering to pupils in small high schools as great a range of subject-matter and activities, adapted to individual needs, as is now common in any other type of school, are afforded. But what about costs?

We have substituted a teaching staff of twenty-three and a library-secretarial staff of nine for 44.5 teachers. If equal pay will buy equally effective service, the reduction in instruction cost is obvious. The complete staff suggested is 72 per cent. of that actually employed. The actual teacher-pupil ratio set up is one to twenty-four. It will be conceded, I think, that this group of schools organized in the traditional way and offering a minimum of work in the general fields of industrial arts, agriculture, home economics and business in addition to the academic program could not hope to operate at a per pupil cost for instruction of less than $150. Such a figure applied to the children enrolled in these schools would yield $114,750. At this figure we could maintain an average salary schedule of $3,586. Can one doubt but that better outcomes in small high schools would probably result if the type of service that can be bought at such a figure were supplied? At least I suggest some measure of experimentation to those superintendents who feel very secure in their jobs.

If the claims of individualized instruction are valid such organization as is here suggested will carry all the advantages claimed for it to pupils in small high schools at costs comparable to those in large schools.

Of necessity I have presented a skeleton. I must still further skeletonize possibilities of individualized instruction in small high schools in other directions which should be mentioned.

There is the matter of retardation and elimination. Entering pupils in small high schools drawn especially from rural elementary schools are highly variable both as to degree of brightness and to educational status. Although intelligence test data frequently show low median ability for such groups of pupils, they also invariably show a wide distribution of ability and frequently higher than usual percentages of exceptionally superior children. Although entering groups are small the small high

school has actually to contend with a wider distribution of mental ability and educational status than large schools which draw from standardized elementary schools. The following distribution of mental ages in a group of 24 ninth grade pupils in a small high school is not atypical: Under 12, 5; 12 to 13, 5; 13 to 14, 3; 14 to 15, 1; 15 to 16, 4; 17 to 18, 2; over 18, 4. It is not unusual to find a spread of eight years in educational age of entering pupils. If individualizing instruction reduces retardation, as shown in the twenty-fourth yearbook of the National Society for the Study of Education, for pupils where ability grouping under class instruction is the practice, we can certainly anticipate improvement in small high schools in this respect following individualization of instruction. The common situation that fails 25 per cent. or more of pupils entering small high schools is a matter the improvement of which is highly desirable.

Time and again investigators have shown a decided relationship between failure and elimination from high school. Frequently failure is shown to be related to mental ability. On the whole, however, factors other than mental ability, such as desire to continue prompted by what the school offers, are primarily concerned. Among the most conclusive of these studies are those of Counts, "The selective character of American secondary education," and Hopkins, "The intelligence of continuation school children." Book's study of Indiana high school seniors should also be mentioned. Remedying the failure situation, therefore, tends towards a higher survival rate and approaches the more nearly to our ideal of universal secondary education.

There is a direct relation, also, between quality of education provided and percentages enrolled from the secondary age group. An intensive study, now in press, of six states shows that where a comparable quality of secondary education is provided for rural and urban children, fully as high percentages of rural children are enrolled. Where only a narrow secondary education program is offered to rural children in schools where general standards are also low decidedly lower percentages of rural children are enrolled. Even the son of a farmer will not waste four years of his life for the kind of thing frequently offered him in small high schools. Individualization of instruction should move us another step along the road to universal secondary education, therefore, through reaching out to many children not now being educated.

These, I submit, are worthwhile possibilities of individual instruction in small high schools. If through it we are able to enrich the educational environment of children in regions of sparse population, get them through school more nearly according to their natural pace and reach out to a higher percentage of the age group to which they belong it will be a real accomplishment. The possibilities of doing this warrant careful experimentation. There are many situations where no damage will result regardless of consequences.

E. E. WINDES
UNITED STATES BUREAU OF EDUCATION

## EDUCATIONAL EVENTS

### THE NEW BURNHAM SCALES OF SALARIES FOR BRITISH TEACHERS

LORD BURNHAM, who drew up the 1920 Burnham scales of salaries for teachers in Great Britain, has announced his awards for the next six years, acting as arbitrator in the conflicting claims of the Local Education Authorities' Panel, which sought a reduction of the standard scales, and of the National Union of Teachers' Panel, which asked for payment of the scales in full. Unless either panel of the Joint Standing Committee gives a year's notice, the new scales will automatically operate from year to year until March 31, 1931. The scales are now being acted upon by the local authorities. There is,

reports the *Times Educational Supplement*, "very little doubt of general adoption," as both panels had bound themselves to accept the findings of the arbitrator.

In the elementary scales fixed by Lord Burnham the salaries of men certificated assistant teachers, both maximum and minimum, slightly exceed 95 per cent. of the full Burnham scale, while women's salaries approximate 95 per cent. and are usually higher than four fifths of the men's salaries at the corresponding year of service. In the case of certificated head teachers (principals who are also teachers) the maximum salaries slightly exceed the 95 per cent. full Burnham scale.

The same percentages apply in the scales in secondary schools both as to men and women, where the local authorities accept responsibility for the salary scales. For secondary schools Lord Burnham has specified an increment, to accrue "after two completed years of service," of £15 for men graduates of training colleges and £12 for women graduates; for non-graduate men £12, for non-graduate women £9.

A note of Lord Burnham states that "over the 40 years of a teacher's normal professional life the woman's aggregate salary is 82 to 84 per cent. of that of a man."

The first recommendation of Lord Burnham is "that the Board of Education shall so adjust the grant that no local education authority shall gain financially by paying salaries on a basis lower than the appropriate standard scales."

In its editorial comment on the new scales, the *Times Educational Supplement* said: "Lord Burnham has performed his laborious task in a manner that deserves, and will receive, general appreciation. . . . [He] has achieved a measure of success for which the whole teaching profession should be grateful."

## UNDERGRADUATE SCHOLARSHIPS FOR STUDY ABROAD

The American Council on Education recently sent to colleges and universities throughout the country a notice of a provision for eight scholarships, each worth $1,000, for the study abroad next year of American students who "must have been in residence for a period of two years . . . and must expect to return to their American colleges to take their degrees."

Applications must be filed by May 1 at the office of the American Council on Education, 26 Jackson Place, Washington, D. C. Forms may be obtained by late applicants by telegraphing to this office.

The establishment of these undergraduate scholarships for 1925–26 was made possible by a group of donors who have entrusted to the American Council on Education the sum of $8,000 to provide eight $1,000 scholarships. Their purpose, as expressed in an official circular, is "to increase understanding and friendship among nations through encouragement of gifted American college and university students to pursue a part of their education in the universities of other countries."

It is stipulated that the scholarship given by Mrs. Andrew Carnegie shall go to a student of New York University and that the scholarship given by Mr. Aaron Naumburg shall go to a student of the College of the City of New York.

Six $1,000 scholarships are thus open to general competition, three of which are provided by Senator T. Coleman du Pont and three by Mr. Felix A. Warburg.

The circular of the American Council on Education reads further, as follows:

To be eligible to receive one of these scholarships a student, either man or woman, must be not less than eighteen years of age, must have been in residence for a period of two academic years at an American institution approved by the American Council on Education, and must expect to return to his American college to take his degree. During his college career he must have given evidence of sound health, as known by the college health officer; high mentality, as exhibited by mental tests and scholastic records; seriousness of purpose, as shown by a somewhat definite plan for his career; intellectual interests and attainments, as proved by his use of leisure as well as working hours; intellectual promise, as suggested in the foregoing and other ways to his instructors; high moral character and loyalty to American institutions.

Selection of scholars will be made immediately after May 1. Announcement of awards will be made as soon as possible.

There is no limitation concerning the countries or universities in which students may study. There is no limitation as to the field of study.

Each scholar will plan his course of study in

conference with his college dean and the assistant director of the American Council on Education. This tentative program may be modified as circumstances warrant by the representative of the American Council on Education, in conference with administrative officers of the university in which the student plans to study. These several officers will cooperate in arranging a program so that full credit for the work of the year will make it possible for the student on his return to his American college to pursue his course regularly with his class.

## THE TEACHERS' COUNCILS IN CHICAGO

SCHOOL AND SOCIETY has presented accounts of the various steps in the issue between the Chicago Board of Education and teachers of the city in regard to teachers' councils. The latest step was the reply sent by Superintendent William McAndrew to a request of a committee of teachers to return to a former plan of councils in which participants were paid their salaries for meetings eight times a year during which pupils were sent home from their classes.

Superintendent McAndrew wrote:

> A record so barren of educational results, as is presented by the councils as a result of their previous meetings, does not justify returning to the old plan. The usage of those councils of excluding principals from the meetings, I can not approve. The vague and absurd allegations of timidity of teachers in the presence of their principals is contradicted by statements of class teachers and by my personal observation. If any one should be so foolish as to charge teachers in general with any particular fault, timidity would not be one characteristic of Chicago teachers. The organization of school systems for the purpose of giving thorough and efficient education is not a complex system. In education, as in business, the simpler the system the better. The usual arrangement: the school as a unit, the principal as official leader, no official by-pass from the teacher to the superintendent cutting out the principals can be approved by any one who has regard for experience, discipline and efficiency.

Superintendent McAndrew has proposed a reorganization by which there would be a council of sixteen, made up of representatives elected by sixteen designated voluntary organizations of teachers, principals and superintendents. The council is to meet on call of the superintendent of schools and to advise him on such matters as he designates. He offers the use of school buildings once a week for meetings of teachers' organizations, but refuses to dismiss the children to give way to such meetings. The Board of Education has approved this scheme.

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## THE INTERNATIONAL INSTITUTE OF TEACHERS COLLEGE

A REVIEW of the work of the International Institute of Teachers College covering the period from January, 1923, to September, 30, 1924, is contained in the report of the dean of Teachers College, Columbia University.

The report shows that the institute was made possible by a gift from the International Education Board of a subsidy of not more than $100,000 a year for ten years, and that this gift, in turn, was due to the generosity of John D. Rockefeller, who had previously underwritten the gift.

Countries represented at Teachers College at the time the institute was founded or shortly before numbered 57, as follows: Alaska, Anatolia, Armenia, Austria, Australia, Belgium, British West Indies, Bulgaria, Canada, Chile, China, Colombia, Costa Rica, Cuba, Czechoslovakia, Denmark, East Indies (Java), Ecuador, Egypt, England, Finland, France, Germany, Greece, Haiti, Hawaii, Iceland, India, Ireland, Isle of Cyprus, Italy, Japan, Korea, Mexico, New Zealand, Nicaragua, Norway, Palestine, Panama, Persia, Peru, Philippine Islands, Poland, Porto Rico, Russia, Santo Domingo, Scotland, Siam, Siberia, South Africa, Straits Settlement, Sweden, Switzerland, Syria and the Virgin Islands. More than 2,000 students from foreign lands had taken work at Teachers College previous to the founding of the International Institute.

The work of the institute is described as follows:

> Logically, it falls into two parts—that of immediate importance is the instruction and the professional aid to be given to the 300 or 400 students from foreign lands that are with us now.
>
> Parallel to this is the work in foreign lands. In part, this is due to the need of the institute and

of American education to keep informed concerning educational conditions in foreign lands, to have personal contact with educational leaders in those lands, to secure the varied literature. It is also advantageous to follow up the work of our former students, to keep in contact with them and to be of service to them. The greatest demand, however, comes from foreign educational authorities and from American philanthropic institutions for the investigation of educational conditions and needs in foreign lands.

For all students from foreign lands an introductory course is offered, the purpose of which is to give a general knowledge of American education, the social conditions out of which it grows, and of the technique which underlies the highly specialized work of so many of the departments of the college. Without such preparatory work, the highly specialized courses are not thoroughly to be understood; and without some adaptation the results of such highly specialized instruction can not be applied to foreign conditions.

One special feature of the work of the institute is the visitation, under the guidance of members of the staff, of schools and allied social institutional service to city schools, town schools, rural schools, teacher-training institutions, children's courts, settlements, clinics, etc.

In the summer of 1924 instruction was offered to extend not only during the usual six weeks of the summer, but for a longer period covering four weeks of the vacation period both before and after the summer session. The term extended from June 11 to September 12, and allowed the student to obtain university credits double those of the summer session. It also permitted a concentration of work and a personal contact with the instructors not possible under ordinary conditions. The instruction and the practical visitation were given by the regular staff of the institute. Thirty-six students from foreign countries registered for the June courses and 20 for those given in August and September.

## MISS NICOL AND THE DISTRICT SUPERINTENDENCY OF NEW YORK CITY SCHOOLS

MISS LUCILLE NICOL, New York City district superintendent of schools, is not eligible for such appointment, Dr. Frank P. Graves, state commissioner of education, ruled on April 18, and the appointment must be terminated at once by the Board of Education.

The case, as summarized in the New York *Times*, has been all through the state courts and a few days ago the Court of Appeals determined that Miss Nicol could not appeal to that tribunal, but that the state commissioner of education must hear the case. A hearing was conducted and the decision was given.

Miss Nicol was named a district superintendent of schools on November 28, 1923. The appointment was on the recommendation of the Board of Superintendents. Several candidates applied for the position. Five of the nine members of the Board of Superintendents were in favor of recommending the appointment of Miss Nicol.

The question as to her eligibility arose after the appointment had been made. By a unanimous vote the Board of Superintendents requested the commissioner of education to pass upon the question of Miss Nicol's qualification for the position.

Upon this request Commissioner Graves gave an opinion on December 26, 1923, in which he ruled that Miss Nicol, not being a college graduate and not being the holder of a superintendent's certificate issued by the commissioner of education, did not have the qualifications prescribed by Section 869 of the education law and therefore was not eligible. The Board of Education, however, failed to reconsider its action in appointing Miss Nicol to the position.

Then, on February 6, 1924, Dr. Ira S. Wile, as a New York City taxpayer, appealed to the commissioner of education from the action of the board in appointing Miss Nicol. She took the matter to the Supreme Court, which refused to issue an order to restrain the commissioner from considering Dr. Wile's appeal and was upheld by the Appellate Division.

A motion for leave to appeal was made to the Appellate Division, and subsequently, on March 30, 1925, a similar motion was made to the Court of Appeals. Both motions were denied.

The commissioner, thus left free to determine the various questions raised upon Dr. Wile's appeal, in his opinion quoted the language of the decision of the Appellate Division in sus-

taining his jurisdiction and then considered the question of Miss Nicol's eligibility.

It was contended in her behalf that while she did not possess the qualifications prescribed in Section 869 of the education law she did hold a principal's license, which qualified her for the position of district superintendent under Section 40 of the by-laws of the Board of Education. This by-law, it was contended, was continued in effect by a saving clause in the 1917 act incorporating Section 869.

The commissioner held that the saving clause did not preserve Section 40 of the by-laws and that Section 869 of the education law must control as to the required qualifications for the position of district superintendent, declaring that by-laws which were clearly inconsistent with express provisions of the law were not preserved by the saving clause.

Dr. William J. O'Shea, superintendent of schools, when asked to comment on the case of Miss Nicol, is reported to have said that unless an injunction were obtained by Miss Nicol, the board would carry out at once the order of the state commissioner.

### SAMUEL CHESTER PARKER

AT the annual meeting of the National Society for the Study of Education, Dr. Charles H. Judd, of the University of Chicago, presented to the society the following statement and the resolutions which accompany it. The statement and resolutions were then endorsed unanimously by a rising vote of the society.

The death of Samuel Chester Parker, on July 21, 1924, took from the National Society for the Study of Education a member who had rendered signal service to the society and to the cause for the promotion of which the society is organized. Professor Parker served as secretary of this society from 1911 to 1915. He saw the possibility of making it an organization of great influence through the publication and distribution of scientific studies and he gave a great deal of time and energy to the preparation of yearbooks and to the arrangement of public meetings at which the yearbooks were discussed. The success of the present plan of procedure which is characteristic of this society is in no small measure the result of his insight and efforts.

Professor Parker also contributed to the science of education by preparing useful summaries of the investigations made in this field and by training through his teaching a large number of students of education. By his death the teaching profession loses one of its conspicuous leaders. Be it

*Resolved*, That the National Society for the Study of Education directs its secretary to transmit to Professor Parker's family, as a token of appreciation of his services to education and of the personal esteem in which he was held by his fellow-members in this organization, this memorial statement; and, be it further

*Resolved*, That a copy of the statement and resolutions be published as a part of the minutes of the annual meeting of this society and in the columns of SCHOOL AND SOCIETY.

GUY M. WHIPPLE,
*Secretary*

## EDUCATIONAL NOTES AND NEWS

M. PAUL PAINLEVÉ, who succeeds M. Herriot as premier of France, holds the chair of celestial mechanics in the University of Paris.

SUPERINTENDENT FRANK W. BALLOU, of Washington, D. C., recently elected president of the Department of Superintendence, National Education Association, was tendered a dinner by residents of Washington on April 18. Members of the Federal Schoolmen's Club of the district were active in arranging the affair.

A DINNER was recently given by one hundred and fifty members of the faculty of the University of New Hampshire in honor of the president of the university, Dr. Ralph D. Hetzel.

FOR "outstanding work in home economics education and research," Kansas State Agricultural College on April 17 conferred honorary doctors' degrees on Mrs. Nellie Kedzie Jones, director of home economics work in Wisconsin; Mrs. Henrietta W. Calvin, supervisor of home economics in the Philadelphia public schools and formerly home economics specialist in the United States Bureau of Education, and Abby L. Marlatt, head of the work in home economics at the University of Wisconsin. The degrees were conferred in connection with the celebration of the fiftieth anniversary of the establishment of home-making courses at the Kansas institution.

FRANK HANKINSON, principal of public school 14, Richmond, New York, has been ap-

pointed as a district superintendent of schools of New York City.

AMONG the American delegates and alternates to the sixth quinquennial convention of the International Council of Women, to be held in Washington from May 4 to 14, are the following: Dr. Aurelia Reinhardt, president of the American Association of University Women; Mrs. A. H. Reeve, president of the National Congress of Parents and Teachers, and Dr. Edna Dean Baker, National Kindergarten Association.

WALLACE E. RICHMOND, head of the physics department of the Newton, Mass., High School, has been elected president of the Eastern Association of Physics Teachers.

FRANK A. TIBBETS, of the Dickinson High School, at Jersey City, has been elected president of the Eastern Commercial Teachers' Association. The other officers are: *Secretary,* Seth B. Carkins, director of business education, Rochester, N. Y.; *members of the executive board,* Milton Stauffer, Temple University, and Alexander Pugh, High School of Commerce, New York City.

PROFESSOR M. ADELAIDE NUTTING and Professor Charles H. Farnsworth, of Teachers College, Columbia University, will retire from active service at the close of the current academic year. Professor Nutting has been appointed emeritus professor of nursing education, and Professor Farnsworth emeritus professor of music education, to become effective from the date of their retirement, on July 1.

DR. JOSEPH R. HARKER, who since 1893 has been president of Illinois Woman's College, has announced his resignation. He will later take up special work in connection with the college.

DR. CHARLES M. MELDEN, for fourteen years president of New Orleans College, has tendered his resignation. Dr. and Mrs. Melden will live in California.

PROFESSOR LAWRENCE A. SHARP, of the University of Colorado, has been appointed director of the extension summer schools of the State of Colorado to be held this summer at Glenwood Springs, Fort Lewis and Lamar. These schools were established to meet the requirements of the 1923 certification law in regard to collegiate recognition for the issuance and renewal of certificates for secondary school teachers.

DR. JOHN S. P. TATLOCK, graduate of Harvard College in 1896 and since 1915 professor of English philology at Stanford University, has been named professor of English at Harvard University in succession to Professor George Pierce Baker, who resigned to accept a professorship in Yale University. After receiving his master's degree at Harvard in 1897, Dr. Tatlock taught for four years at the University of Michigan, returning to Harvard in 1901 to study for the doctor's degree which he secured in 1903. For the next twelve years Dr. Tatlock taught at the University of Michigan, going in 1915 to Stanford University.

DR. RAYMOND D. HAWKES, professor of English in the University of Rochester since 1908, has been appointed to the Caroline Donovan chair of English at the Johns Hopkins University to succeed Professor James W. Bright, who retires at the end of the present academic year.

DR. HORATIO E. SMITH, of the department of Romance languages at Amherst College, will join the faculty of Brown University next September to become head of the department of Romance languages.

DR. WILLIAM J. CROZIER, professor of zoology in Rutgers University, has resigned to accept a professorship at Harvard University.

DR. WILLIAM HAWLEY DAVIS, now on leave of absence from Bowdoin College, serving as editor of the Stanford Food Research Institute, will next year become professor of English at Stanford University and editor of the University Press, a new office which the growing amount of publications makes necessary.

DR. OSCAR JASZI, who was a member of the cabinet of Count Karolyi when he was premier of Hungary, has been appointed professor of political science at Oberlin College, to begin service next fall.

LORD BALFOUR has accepted the presidency of the newly established British Institute of Philosophical Studies. The object of the new institute is to promote and encourage the study of philosophy by the general public.

SIR ALFRED DAVIES has resigned as permanent secretary of the Welsh Department of the British Board of Education and has been succeeded by Mr. Percy Watkins.

FOLLOWING the resignation of Dr. George Scelle as professor of international law of the University of Paris, the minister of education has cancelled the decree closing the law faculty and suspending Dean Barthelemy.

MISS MARTHA VAN RENSSELAER, head of the New York State College of Home Economics at Cornell, was indorsed as candidate for the United States Senate in 1926, by women attending the annual meeting of the New York State Home Economics Association last week.

AT Teachers College, Columbia University, sabbatical leave has been granted during 1925–26, for the winter session, to Professor E. H. Reisner, and for the spring session, to Professors Mabel Carney, Elizabeth C. Cook, Elbert K. Fretwell, Milo B. Hillegas and Charles J. Martin.

PROFESSOR HAROLD WHITEHEAD, head of the department of sales relations at the College of Business Administration of Boston University, has resigned to accept a position as assistant to the president of Brewer & Co., Inc., with headquarters in Worcester, Mass.

MISS ALICE H. FARNSWORTH, assistant professor of astronomy at Mount Holyoke College, has been granted a leave of absence for 1925–26 and will serve as an instructor at the University of Chicago for that period.

THE Reverend Charles R. Erdman, who was recently forced to retire from his post as student adviser at the Princeton Theological Seminary, on April 14 was chosen moderator of the New Brunswick Presbytery without a dissenting vote.

PRESIDENT E. M. HOPKINS, of Dartmouth College, is giving the Henry LaBarre Jayne memorial lectures before the Philadelphia Forum, on April 17, 24 and 30.

WILLIS A. SUTTON, superintendent of schools of Atlanta, Ga., spoke on "Saving millions and prolonging life" at a recent meeting in New York City, under the auspices of the First District Dental Society of New York. He reported the results that have been obtained through oral hygiene teaching and practice in the public schools of Atlanta.

SPEAKERS at the annual meeting of the National Congress of Parents and Teachers, to be held at Austin, Texas, from April 27 to May 2, will include Dr. W. N. M. Splawn, president of the University of Texas; Mrs. Cornelia J. Cannon; Dr. F. D. Slutz, principal Moraine Park School, Dayton, Ohio; Mrs. Cora W. Stewart, chairman Illiteracy Commission, World Federation of Education Associations; Dr. Henry Neuman; Dr. Helen T. Woolley, of the Merrill-Palmer School, Detroit, Mich., and Willis A. Sutton.

SPEAKERS at a regional conference in the East High School of Denver on April 11 included Miss Anna M. Thompson, director of the classroom department of the National Education Association; Jesse H. Newlon, president of the National Education Association; Mrs. Mary C. C. Bradford, state superintendent of public instruction in Colorado, and Mrs. A. L. Threlkeld, deputy superintendent of the Denver public schools.

DR. JAMES A. DUGAN, writer, lecturer and public school principal, died in Brooklyn on April 15 in his fifty-sixth year. He had been in the public school service since 1898 and at the time of his death was principal of Public School 29, Brooklyn.

PROFESSOR CHARLES W. LAWRENCE, head of the engineering department at the University of Southern California, died on April 1 at the age of fifty-three years.

AN appropriation of $100,000 to the Hampton-Tuskegee Endowment Fund has been approved by the board of trustees of the Carnegie Corporation. The sum is to be equally divided between Hampton and Tuskegee, $50,000 for an endowment fund for each institution, the income to be used for the general support and maintenance of instruction in the industrial and applied arts.

JOHN D. ROCKEFELLER, JR., has given $150,000 more to the expansion and endowment fund of the International Y. M. C. A. College at Springfield, Mass. Mr. Rockefeller had previously given $100,000 to the fund, which also

had received a gift of $500,000 from the Laura Spelman Rockefeller Memorial Foundation, making the total of gifts from the Rockefeller family $750,000. The campaign fund now amounts to $2,099,305, leaving $415,960 yet to be subscribed by July 1 to secure conditional gifts of $900,000 already made.

BY the will of the late Frank V. E. Bardol, of Buffalo, N. Y., the University of Buffalo receives an endowment fund of $200,000 for scholarships.

MR. AND MRS. DWIGHT W. MORROW, of New York, have given $200,000 to Amherst College for a new dormitory of sixty-five rooms and dining-room, which is expected to be ready in the autumn of 1926.

BOWDOIN COLLEGE receives $43,000 under the will of the late Edward B. Chamberlain, of Bristol, Maine.

CHARLES STEEL, senior warden of Saint Thomas' Episcopal Church, New York City, has presented the institution with $300,000 for the endowment of St. Thomas' Choir School. He had previously purchased and equipped the two buildings in which the school is housed at a cost of $200,000.

A COMMITTEE of five members was appointed by the Grand Council, Order of De Molay, at the final session of the council, meeting at St. Louis on March 19, to investigate the feasibility of obtaining a fund of $1,000,000 to be used as a world foundation for assisting young men to obtain an education, learn trades and otherwise prepare to gain a livelihood. It is planned to establish De Molay dormitories at a majority of the universities and colleges in the United States. At the University of Missouri a $200,000 dormitory will be started this summer. Others have been established at the University of Florida and the University of Oklahoma. At many institutions the order has started chapter houses, operated on a cooperative plan. Chapter rooms are a part of dormitories and degrees of the order are exemplified in them. The extension of De Molay chapters in foreign countries was decided upon.

THE organization of a new social science fraternity, Alpha Pi Zeta, was announced recently by Professor T. S. Luck, of the department of economics and sociology at Indiana University. Its object is to encourage original investigation and scholarship in the social sciences. Membership in Alpha Pi Zeta will include all faculty members in the departments of economics, sociology, history and political science, and a limited number of students of high scholarship.

PRESIDENT DOUMERGUE of France received on April 17 a delegation representing Wellesley College and thanked the college for aid it gave France during and since the war. M. Doumergue presented to Wellesley, to commemorate its fiftieth anniversary, replicas of busts of Washington and Franklin which were made by the famous sculptor Jean Antoine Houdon and reproduced by the Sèvres national manufactory. The delegation, introduced by Ambassador Herrick, represented the trustees and graduates of Wellesley.

EIGHT American college students, six men and two women, have been selected to go to German universities next autumn on fellowships arranged through the American German Student Exchange of the Institute of International Education. The students are: Paul Dietz, of Loraine, Ohio, and a senior at Miami University, who will study foreign trade at the University of Hamburg; Martin Eshleman, of Denver, Pa., a Haverford College senior, German literature at the University of Berlin; Miss Sophie Hansen, of Carteret, N. J., a Barnard College student, to study political economy at the University of Breslau; Morris Kemp, of New York City and Columbia University, to study history and diplomacy, University of Berlin; Talcott Parsons, of Marietta, Ohio, Amherst '24, assigned to study at Heidelberg, and Miss Mildred B. Wetten, of Chicago, a Wellesley College senior, German literature, and Simon Newcomb Whitney, of New Haven, Conn., Yale '24, who will study economics at the University of Breslau.

FOURTEEN cities have extended invitations for the next winter meeting of the Department of Superintendence, of the National Education Association, according to a statement made by Secretary S. D. Shankland. The executive committee is now securing information on the facilities of the various cities to entertain the convention.

## SPECIAL CORRESPONDENCE

### THE BEGINNING COURSE IN RURAL SOCIOLOGY AT THE UNIVERSITY OF MINNESOTA

DURING the last two decades the number of normal schools, colleges and universities which have added courses in rural sociology to their curricula have increased many times. These courses have resulted from a general realization on the part of the faculties and students that the facts which pertain to rural life warrant separate and special study. In spite of this general demand, however, there is not a consensus of opinion regarding what shall be taught in these courses or regarding the methods of instruction that shall be used. The objectives of the first or beginning course are not clearly defined or well standardized and a diversity of opinion exists regarding how the objectives, whatever they may be, shall be realized.

A brief review[1] of the statements concerning the teaching of rural sociology in the various institutions of the United States shows that there is a tendency in normal schools, for instance, to give particular emphasis to the rural school. In agricultural colleges the emphasis seems to lie in the direction of community organization and leadership, such as would be undertaken by agricultural extension workers, while other colleges, particularly the colleges of science, literature and the arts, emphasize the purely cultural aspect of the subject. The methods of teaching the course differ. Some institutions use textbooks and collateral reading to the complete exclusion of research work or field investigations. On the other hand, other institutions have found that studies, such as a survey of the student's home community and the like, make the most satisfactory approach to the subject.

In view of these facts, the question naturally arises regarding the purpose of a beginning course in rural sociology and the procedure which can most effectively accomplish the realization of this purpose. But before attempting to answer such a question, perhaps it is well to recall the fact that any new science, like rural sociology, comes into existence when facts and theories within its field are not or can not be conveniently explained or developed by sciences which are antecedent to it in origin. Furthermore, the content of a new science will be largely descriptive at first, though it becomes more analytical and abstract as its data and concepts are worked out. To some extent these facts may account for the dissimilarity of courses in rural sociology as they are given at the present time. Yet there is evidence that this subject will follow the usual trend toward greater accuracy in the analysis of its subject matter. During the first years when rural sociology was taking form, and even yet to a lesser extent, books and articles dealing with rural situations were almost wholly descriptive. But as time has gone on, surveys and other forms of investigation have given data which make it possible for the content of the subject to be more analytical and exact. Whether this accumulated knowledge and greater precision will result in a more uniform course is as yet questionable. Nevertheless, greater unity and coherence in the content of the first course in rural sociology is essential if the subject makes the development and fruitful contribution to knowledge which can logically be expected of it.

In any discipline or study the first or introductory course ordinarily is planned to give the student such facts as will orient him in the subject and then, as he comes in possession of these facts, get him to think analytically about questions which fall in that particular field. To the writer at least, there seems to be no fundamental reason why the objectives of rural sociology need be any different from these. It may be argued that students who come from rural communities know the facts about rural life and that therefore their time may be more advantageously used in making detailed studies of particular institutions or problems. However, it is necessary to remember in this connection that living in a rural community and sharing the experiences of people there does not give the student or any individual by virtue of that fact alone an understanding of the problems which confront rural populations, nor

[1] A résumé of the teaching of rural sociology in the colleges and normal schools in the United States is given in the *Proceedings* of the National Country Life Association, 1921, pages 85–104.

a knowledge of how to solve them. If it were so, the question of rural community leadership would be a much simpler one than it is to-day. To be sure, the student who has lived on a farm or in a small town will know about conditions in his own community, but as a general rule, he will have only vague and often times incorrect ideas about conditions in other parts of his state or country. A study of his own community, valuable as it may be, will not help him revamp these impressions in the light of a broad, constructive social policy. In fact, a detailed study of his own community may deepen the particular groove through which he views rural society. If the student has been reared in an urban environment the need for a study of rural conditions, as given by all available sources, is obvious.

Then again, it is not sufficient that students should get merely the current knowledge about rural migration, health, tenancy and other topics. This material must be organized in his mind so that the facts about these subjects can be viewed in their true perspective. Practical teaching experience has shown that this organization and synthesis can be secured most effectively by taking up a diligent study of the various topics relating to rural life when they are arranged and studied in an organized manner. Unless the study is made in this way the student will not be able to comprehend or properly evaluate the various factors in the rural environment which in one way or another account for the conditions that prevail in the country.

Considerations of this sort have been kept in mind during the time the beginning course in rural sociology has been organized and taught at the University of Minnesota. Consequently a detailed description is given herewith to show how the organization and presentation of the subject matter in the light of these considerations have succeeded. The general outline of the course, which has been used for the last seven years, was planned by Professor L. L. Bernard, who had charge of the work in rural sociology, and has been modified in some details by the writer and Professor C. E. Lively of Ohio State University, formerly an instructor in this university. The course carries three quarter hours credit and is open to all students in the university who have had at least the introductory course in general sociology. Most of the enrollment comes from the College of Science, Literature and the Arts, though the course is given in the College of Agriculture. It is offered in four sections each quarter. The total enrollment has constantly increased and now during all quarters of a year, approximately five hundred students take the course. These students represent a wide variety of interests and experiences. Yet the informational and analytical nature of the course has been the source of frequent comments of a favorable sort by all types of students. Moreover, some of the most enthusiastic comments have come from students in the College of Education, who have been rural school teachers or from students in the College of Agriculture, who have been born and reared in the country. This outline makes possible a presentation of the facts about rural life in an organized analytical manner. It is suggestive of the content and organization of the first course in rural sociology which could be used in all types of normal schools and colleges. If desirable, certain topics or assignments on topics already listed could be omitted or added without destroying the general outline and scheme of presentation. It may also be noted in passing that this outline prevents both students and instructors from seeing the subject entirely through their own contacts which clearly can not be as broad as the subject itself.

### OUTLINE OF COURSE IN RURAL SOCIOLOGY

I. *The general backgrounds of rural life.* 1. Introduction. 2. The social problem. 3. The evolution of country life. 4. The characteristics of rural people. 5. The physical background. 6. The social background. 7. Movements of population (three assignments).

II. *The technical backgrounds of rural life.* 8. Agricultural production. 9. Cooperation (two assignments). 10. Land policy. 11. Tenancy. 12. Rural health. 13. Communication.

III. *Rural social institutions.* 14. The farm home (two assignments). 15. Rural morality (two assignments). 16. The rural church (two assignments). 17. The rural school (two assignments). 18. Rural recreation. 19. The farmer and political action. 20. Farmers' organizations.

IV. *Rural community organization and leader-*

ship. 21. The relationship of town and country. 22. Rural social surveys. 23. Rural leadership. 24. Community development.

A list of readings amounting to about thirty pages in length, selected from the best printed material available on each topic, is given in an assignment. The class work consists mainly of discussions which are planned to supplement the material included in the readings and to assist the student in organizing the various facts which relate to the topic. Tests which include questions based on readings and discussions are given at frequent intervals.

It is true that this plan of presenting the course makes no provision for laboratory work or special consideration of any specific institution or problem. At this university the plan is to have the first course in rural sociology followed by more detailed courses which deal with particular problems. For example, a course which ordinarily is elected after the first course is completed deals with the technique of community organization. Other courses are The Rural Social Survey, The Rural Church and Rural Social Institutions.

The practice of taking a general introductory course before making studies in more detailed fields has the advantage of giving a basis for evaluating and understanding the work which is done in the specialized field. There is the danger, unless the students get a proper synthesis of the whole subject, that they will know something about the technique required in work with certain rural groups but they will know little about the facts and theories which relate to rural social progress and organization. Some persons may feel that the technique is the more important. Yet, in view of the confusion concerning certain questions relating to rural life which exists in the minds of people living and working in rural communities, the need for a proper understanding and synthesis of rural questions becomes urgent and indispensable. The country lacks persons who know the possibilities and limitations of the cooperative movement quite as much as it does people who can organize cooperative associations. Rural church leaders who understand religion in its scientific and social aspects are as scarce or scarcer than technicians who can organize a community for definite religious projects. Interpreters of community surveys, as well as persons skilled in making surveys, are needed in the country. As a matter of fact, the country needs persons who know both the theory and the technique of rural organization and development. But unless the student can get a broad grasp of the subject based on accepted economic and sociological concepts while taking his college course, there is slight chance that he will ever get it except as it may be acquired later through intermittent reading and occasional attendance at various conferences. On the other hand, there is a greater possibility and probability that technique may be acquired after the student leaves the classroom, for the agencies and opportunities which provide training in technique are much more numerous than those which afford training in constructive thought and logical analysis. Moreover, technique in rural community development consists very largely in taking cognizance of the accepted theories in the social sciences and fitting these to particular communities. The logical step in the procedure is first to get an understanding of social theories which are essential to successful technique in community organization and leadership.

Special studies of certain topics, field trips and laboratory exercises are all valuable and vitalizing to the subject, but so far as the beginning course is concerned, there is a high degree of probability that the greatest net results will be secured when such work supplements, rather than supplants, the presentation of the course, which is broadly informational and analytical in character. A visit to a farm or a rural community may be interesting and valuable in furnishing illustrative material, but of and by itself it can hardly be considered as rural sociology. Rural sociology means more than that. It is a science which demands the understanding of concepts and conditions which can be secured only by careful study of the literature dealing with the subject. If the criticism is made that an informational and analytical presentation of the subject is apt to be vague, general and impractical, the root of the criticism lies not in the subject matter nor in the presentation of concepts essential for effective thinking, but it lies rather in a failure to

relate these concepts and facts to concrete conditions. Lastly, it may be mentioned in passing that a presentation of the course in the manner herein suggested does much to dispel the idea, still too prevalent in colleges and universities, that rural sociology is a study intended primarily for agricultural students or students who plan to live and work in rural communities instead of being a subject which merits the attention of all students in the institutions of collegiate grade. The advisability of a more uniform and logical presentation of the subject matter in the first course in rural sociology is patent.

C. R. Hoffer

University of Minnesota

## DISCUSSION

### THE OBSERVANCE OF WORLD GOOD-WILL DAY

The world has made great strides in establishing friendship and good-will among peoples since the eighteenth of May first came to be observed in the schools. It was in commemoration of the opening of the first Hague Peace Conference on May 18, 1899, that the schools of the United States have observed this day as Peace Day, that term having first been used by Dr. Elmer Ellsworth Brown, United States Commissioner of Education. In his letter of transmittal to the Secretary of the Interior on December 5, 1906, Dr. Brown urged that "in the celebration of this anniversary day and that in the instruction of the schools throughout the year, the effort be made to promote an insight into the true aims and aspirations of our own nation and of the other nations with whom we are to work together in the making of a higher world civilization."

Subsequent letters of Commissioner Brown, notably the one of 1908, indicate the general attitude of the teachers toward the observance of the eighteenth of May. In this letter Dr. Brown says: "Wide-spread interest has been manifested in the observance of the eighteenth of May . . . as a time for accentuating the endeavor to arrive at a fair understanding of the other nations of the earth, which is the surest basis of honorable and fruitful peace and an indispensable element in modern education."

Each year after this more and more schools celebrated Peace Day, and the demand for proper material for the observance grew so great that the American School Citizenship League, then called the American School Peace League, prepared at the request of the United States Commissioner of Education, Dr. Philander P. Claxton, a pamphlet entitled "Peace Day: suggestions and material for its observance in the schools." This was published as a *Bulletin* of the United States Bureau of Education. In his letter of transmittal to the Secretary of the Interior on March 5, 1912, Dr. Claxton recommended "that all or portions of it be reprinted by state departments of education in sufficient quantities to supply all the teachers in the United States."

In the following year, the American School Citizenship League, again at the request of the United States Commissioner of Education, prepared another pamphlet, entitled, "The Promotion of Peace: I. Suggestions for the observance of Peace Day (May 18) in schools; II. Agencies and associations for peace." This was also published as a *Bulletin* of the United States Bureau of Education. More than a hundred thousand of the 1912 and 1913 *Bulletins* were bought from the government, and large sections of them have been translated into other languages, as ordered by certain European governments, and distributed to teachers for the observance of Peace Day in the schools.

Until the outbreak of the world war the day was quite generally observed in some of the countries of Europe, but, so far as is known, there was no observance of the day during the war.

In the United States the eighteenth of May continued to be observed as Peace Day until the year 1918. From this time to about 1921, a period of great uncertainty as to the future plans for world adjustment and world cooperation, there was no general observance of the eighteenth of May, although records show that many schools still continued the celebration. The results of the war had been to emphasize the more immediate days of international significance, such as Armistice Day and certain strategic battle dates. There was indeed great confusion as to what day in the year should be observed as Peace Day, the day when all the world could

concentrate on the ideas of international friendship. In 1923 the World Conference on Education in San Francisco decided that some day should be set apart for such observance and that this should be called World Good-Will Day. The conference was confronted, however, with the question as to whether the day whose observance should promote the spirit of international justice and good-will should still commemorate the Hague Conferences. It was affirmed that the day selected "should in itself be a significant landmark in the movement for international friendship." The conference selected the eighteenth of May, designated it as World Good-Will Day, and resolved: "That the eighteenth of May, which commemorates the opening of the first Hague Conference—the first gathering of the nations in time of peace for the consideration of means of settling international differences by peaceful methods—is especially appropriate for concentrating upon the ideals of justice and world friendship."

The conference went further and declared: "That on the eighteenth of May instruction should be given concerning the results of the Hague Conference and also the later efforts to bring the world together into a cooperative body, and that this instruction should be accompanied by songs, both national and international, plays and pageants, which carry out the spirit of the day."

This year the World Federation of Education Associations, which was organized at San Francisco in 1923, and which is holding its first meeting at Edinburgh in July, is asking the teachers of all countries to celebrate the eighteenth of May as World Good-Will Day. Nothing could be more far-reaching in promoting good-will between nations than a world-wide effort among the teachers to impress upon youth the broad humanitarian principles of right and justice which transcend all national boundaries. The record of the past two decades shows the great value of accentuating these principles on a special day set apart for the purpose.

Will the teachers of the United States join the ranks of their co-workers throughout the world in this year's observance of World Good-Will Day!

FANNIE FERN ANDREWS
AMERICAN SCHOOL PEACE LEAGUE,
405 MARLBOROUGH STREET,
BOSTON, MASS.

## COMMENTS ON VISHER'S STUDY OF PARENTS OF NOTABLES IN WHO'S WHO (*Journal of Sociology*, March, 1925)

THE list of "notables" in "Who's Who" is not a list of the truly "intellectual," but of those of some ability or much who have been successful in winning for themselves the interest of a sufficient number of people who read newspapers and books to cause a desire to know about them personally. Some lines of life work if successful involve general public interest in the person who did the work, but others do not. A clergyman can not be truly successful without getting into the public interest, but the same man may work as a successful research chemist without giving any occasion for the inclusion of his name in "Who's Who." The factor in becoming notable which counts most is verbiage ability, and by that is meant not simply writing articles, stories, books, etc., but also giving public addresses, making argumentations on public problems, giving newspaper interviews, entertaining with short speeches, et cetera. Verbiage is the means of getting known to other people, and arousing interest on their part. It is the "verbiage" jobs which are the bases for inclusion among the "notables." The "doing" and "thinking" jobs usually involve better ability than the "verbiage," but they do not conduce to publicity.

If there were some way to measure the ability of the individual accurately irrespective of verbiage ability, and if this job of gathering the data could be done so thoroughly as to result in a reliable list of the truly notable for intellectual ability, then a study of the physical origin of those on that list would be of very great utility, and the conclusions could be treated seriously. They would be important in human biology and assist in deciding how to guide race development. But the unreliability of the list of notables in "Who's Who" so far as the possession of intellectual ability is concerned is so seriously low that statistical generalizations based thereon should be given no scientific standing. The clergymen will not believe this, of course, but will continue to regard their large families as a special contribution to race welfare.

The writer is the son of a clergyman and

educator (son of a farmer) in "Who's Who," and in First Families of America and at a publicity provoking job.

Milton Fairchild

## QUOTATIONS

### SCHOOLS AND EPIDEMICS

The Ministry of Health and the Board of Education have jointly issued a revised memorandum on the closure of schools and the exclusion of children from them.[1] The previous issue was in 1909. In an introductory note it is pointed out that hitherto local education authorities have been able to close schools during epidemics, not purely in public health interests, but for reasons of finance, so as to save loss of grant from diminished attendance. This statement amounts to a frank admission of mistaken action on the part of the central authorities, and it is good news that they have seen the wisdom of departing from it. The primary purpose of the school being education, it was wrong to make it possible for local bodies to profit financially by complete school closure rather than exclusion of pupils where the latter measure would be equally efficacious in checking spread of disease. The code now provides that closure shall take place only for medical reasons, and that authorities shall be secured from financial loss when schools are kept open with a greatly diminished attendance. Though in other respects the new memorandum does not differ essentially from that of 1909, attention is directed to certain changes and additions. These relate (1) to the rules as to periods of exclusion necessary for scarlet fever, diphtheria, measles and mumps; (2) to rules for action in respect of small-pox, German measles, influenza and epidemic diseases of the central nervous system, which have now increased in prevalence; (3) to action required where teachers are found suffering from pulmonary tuberculosis, and (4) an appendix giving in summary tabular form the incubation and exclusion periods of the commoner infectious diseases. After detailing the powers of local authorities, the memorandum goes on to give guidance for the coordination of the work of the school medical service with that of the public health service in respect of school closure, which is to be resorted to as seldom as possible, and the exclusion of children, which is very generally the more advisable course. The sanitary and educational authorities are the same in county boroughs and in some municipal boroughs and urban districts, so these may have the same officer for both purposes, who, it is advised, will generally find it more convenient to deal with closure and exclusion as school medical officer, because, if the board is satisfied with arrangements made locally, the officer can authorize exclusion directly, without reference to his authority, while, as already insisted, where he can only advise, not authorize, school closure should be rare and exceptional. Where there are two separate officers—one for education, the other for public health—the same considerations apply generally, though the responsibility of the latter officer for dealing with outbreaks of infectious disease is not diminished by the powers of the former, and definite working arrangements should be established on lines laid down in the memorandum. The collection of information about infectious disease among children will depend mainly on the medical organization of the local education authority, which can systematize the work of teachers, school nurses and attendance officers, as well as get information from parents. Of these agencies that of well-trained nurses is the best, by visits both to schools and to homes of absentees. Where the medical officer holds a joint appointment the information should go to him; elsewhere the health officer should be the first recipient, and transmit the information promptly to the school medical officer. Infection is spread much more by persons than by things, so that besides disinfection, cleanliness and ventilation of school premises, special regard is to be given to children of infected households as possible carriers, and unrecognized cases may be sought for among children who have returned to school after a short absence. Exceptional conditions sometimes justifying school closure include infectious sickness in the teacher's family, the need for disinfection and cleansing after infected children have been in attendance, the rectification of sanitary defects; whilst in rural areas with scattered popu-

[1] Copies may be obtained from H.M. Stationery Office or through any bookseller, price 4d. net.

lation the school may give the only likely opportunities for intercourse and so may be properly closed. Sometimes it suffices to close, not a whole school, but a department. An important section of the memorandum deals with rules for action in respect of particular diseases —scarlet fever, diphtheria, measles and others —but the details are too numerous for synopsis here. Epidemic diseases of the central nervous system are referred to last of all, and though the guidance that present knowledge permits is limited in amount, yet what is said will no doubt be carefully studied. The whole memorandum will now be essential for reference by every health officer and school medical officer in the country. It is, moreover, well worth perusal by education authorities in general. It is signed by Sir George Newman on behalf of the Board of Education and the Minister of Health.—*The British Medical Journal.*

## REPORTS

### THE COMMENTS OF MR. FISHER ON AMERICAN EDUCATION

REPORTS on his travels in the United States last fall are given by Mr. H. A. L. Fisher, former British minister of education and now a warden at Oxford, in *Scribner's* for April and in issue of *Collier's* for April 11. The *Collier's* article is devoted largely to Mr. Fisher's educational observations.

Mr. Fisher declares at the outset that the public school system in America is, "speaking quite broadly, a huge success. Without it America would not be a nation, but would reproduce all the discords and painful historical contrasts which are the legacy of time to the continent of Europe." The handicaps under which the American system of education labors are listed as follows:

> There is the great difficulty of securing able teachers in view of the alluring competition of business life. There is apparently the impossibility of securing male teachers at all for the primary schools. There is the large influx of immigrants of differing races and discordant tongues whose children have to be taught the English language and the elements of American citizenship. There is the fierce industrial pressure upon the schools for child labor. There is the difficulty of providing school places of sufficient numbers and with sufficient paraphernalia for a growing population. There is, again, the quite distinct problem of educating the colored population for the tasks which it is fit to perform in the scheme of American society. All these difficulties must be taken into account if we wish to form a fair estimate of the work which is being accomplished by the American schools.

The American educator has a right to the pride he feels "in the wide diffusion of free high school education in the country," Mr. Fisher says. He comments upon the increase in the number of students attending commercial courses and raises the questions "What is the educational value of these courses? How far are they compatible with a good, sound general education?" He adds "I have very little doubt that American educational experts are attending to all these points and that the last word has not been said."

Mr. Fisher makes the generalization that, "In education everything depends on the teacher. If the teacher is good, education is good; if the teacher is indifferent, education is indifferent." Mr. Fisher records his impression that, in America, "where so many dollars have gone into school equipment and school buildings, too little regard is paid to the human beings without whose effective agency for good all this outlay of brick and mortar is in vain. Somehow or other, the teaching profession seems to stand on a lower plane of public esteem in America than it does in Britain." In accounting for this Mr. Fisher suggests that "the existence of a very considerable number of high-salaried posts in our old endowed schools in Britain has given a certain prestige to the teaching profession which it would not otherwise possess." He says that, were he an American millionaire, he would "try the effect of creating a few scholastic prizes for high school teachers in my state."

Refuting the "common impression" that Great Britain "only educates the few," Mr. Fisher declares that "our British system is now just as comprehensive as the American."

> In Britain all children without exception are under education in the primary schools till the conclusion of the term in which they have reached

their fourteenth year, and there is besides a liberal, though not yet sufficient, supply of state-aided high schools in which boys and girls can obtain an education either without payment of fees or at a low charge. Moreover, in our newer universities the students tend to come from artisan families.

"Special advantages to those who attend them" are offered in the privately endowed schools with ancient traditions which the British system includes, "owing to historical reasons." These schools "are able, by reason of their wealth and various amenities, to attract able and even brilliant university men to their service." The teaching in American high schools does not, in Mr. Fisher's opinion, compare "in thoroughness and grasp" with "the kind of teaching which is made available in an English public school (which you would call private), where every master has taken a high honors degree at the university."

The marvel is that the American university can do so much with young people who come to college on so inadequate a grounding. Indeed, I imagine that for the first two years the university teacher is trying to make good the defects of the high school training.

Mr. Fisher closes his educational references by saying that he looks "to the happiest result" from the recent establishment of honors courses in American seats of learning. "Their effect will be immense. They will raise the general standard of culture in that large body of students, ambitious enough to soar above the low level leading to the ordinary degree and yet too wide in the span of their general interests to submit to the curb of specialized research. They will improve the teaching body."

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## EDUCATIONAL RESEARCH AND STATISTICS

### THE COLLEGE CURRICULUM AND VOCATIONAL GUIDANCE[1]

THE continuing high percentage of failures, semi-failures, withdrawals for unknown causes and transfers from one course of study to another, in our colleges and professional schools, with all the waste of educational effort and sacrifice of human energy and happiness that these things imply, is a constant reminder to both teacher and administrator of the inescapable demands of vocational and professional guidance. It is a goad which forces us to the disheartening admission that in our zeal for teaching and educating we have failed to meet our first obligation to the beneficiaries of our educational efforts. This first duty of the educator is not to teach but to learn—to learn what the student can learn, to discover what he should try to learn and how he may be most efficaciously helped to learn. That we have no exact information even as to the number of failures that our colleges turn out annually is a fact which might be interpreted by an unsympathetic critic as indicating that our excusable failure has thus far very probably been accompanied by inexcusable neglect. It is conservatively estimated that about 35 per cent. of those annually admitted to college fail to achieve the goal for which they entered college. If this estimate is only approximately correct, it means that about a third of each college class is the victim of educational administration. When we consider the reflex influence which this predestined third has on the other two thirds in dragging standards of scholarship downward, in diverting a disproportionately large fraction of the teaching energy of the institutions from fertile soil to barren, but not otherwise irreclaimable, land, and the general lowering of the morale of the whole college community, the crucial character of the need for an immediate and comprehensive attack on the guidance problem is clear.

The question which has been assigned to me for discussion this morning is "What can the college curriculum do for educational and professional guidance?" My answer is that we do not know, but that there is sufficient promise in the guidance potentialities of the curriculum to make it worth serious study. A number of experimental and statistical studies have been made during the last fifteen years, of which one of the most important is that reported by President Lowell, of Harvard, in the 1911 volume of *The Educational Review*. President Lowell studied the records of about two thousand graduates of the Harvard Law and Medical Schools

[1] Paper read before the Association of American Colleges, Chicago, January 8, 1925.

who had previously graduated from Harvard College. He divided these students into four groups, (1) those who had majored in literature and languages, (2) those who had majored in history and political science, (3) those who had majored in natural sciences and (4) those who had majored in philosophy and mathematics. With respect to law graduates, there was not a sufficiently large number of cases in the last two groups to make the results worthy of confidence. His study therefore narrows down to a comparison between the professional school achievement of those who had majored in literature and languages and those who had majored in history and political science. His findings were, briefly, that these various groups of students did equally well in professional school; and his final conclusion was that "in the administration of our colleges, and, indeed, in all our general education, as distinguished from direct vocational or professional training, we have laid too much stress on the subject, too little on the excellence of the work and on the rank attained."

This conclusion seems to me to be unwarrantably pessimistic with regard to the guidance potentialities of the curriculum for reasons which will be stated in a moment. In order to check up on the findings of President Lowell the research staff in Dean Hawkes' office made a study of three hundred graduates of the Columbia Law School who had previously graduated from Columbia College. These students were divided into groups just as in the case of President Lowell's study. We found that all four groups achieved exactly the same average grade, B—, in both law school and college. Again it is to be noted that there were only two students each in the natural science and philosophy and mathematics groups. Apparently these findings indicate that there is no relation between collegiate subject-matter and professional school which may afford a basis for professional guidance. However, in reality, they mean very little—if anything. In the first place, both studies are based upon more or less arbitrary groups of courses. They do not deal with specific subject matters. Indeed the groups of students compared are such as would constitute approximately random samplings of students and the findings are not far from what we should expect from pure chance selections. But the major weakness of both studies is due to the character of the educational measurements used.

Every study that has been made of college and professional school grades has invariably indicated that they are extremely subjective in all respects, of unknown significance, of unpredictable variations in standards and of very low reliability. These vitiating features of the original data are greatly magnified by the mixing of records and standards derived throughout a period of twenty years. These are in brief the reasons why I do not believe that President Lowell's study offers any real evidence against the value of the college curriculum as an instrument of vocational guidance. It should be said, of course, that President Lowell's study was considerably colored by the then much-mooted question of the transfer of training and that his study was dominated by the concept of college subject matters as preparations for higher studies. The modern attitude towards college courses considers them not as preparatory disciplines, but in so far as guidance is concerned as a means for displaying particular abilities and effective interests and it is from this viewpoint that there has been a great revival of interest in the last few years in the college curriculum.

What we need to know is not so much the comparative achievement in professional schools of students who happen under the present arrangements to choose particular groups of courses but rather the relationships which obtain between success or failure in specific collegiate subjects and success or failure in particular professions, and in particular branches of such professions. It was with this question in mind that in this study we studied the relation between success in Columbia Law School and success in various courses and groups of courses in Columbia College. None of the obtained correlations are very high but they range in magnitude from 0.18 to 0.56, thus indicating within the limits of reliability of such a small-scaled study as this that there really may be significant differences between various collegiate subject matters with respect to professional guidance potentialities. Taking these correlations in order of magnitude we begin with

French at the bottom of the list and finally reach the total average college grade at the top, with history and political science a close second.

| | r | n |
|---|---|---|
| French | .18 | 50 |
| Economics | .28 | 69 |
| Philosophy | .32 | 72 |
| History | .36 | 74 |
| Mathematics | .40 | 56 |
| English | .42 | 60 |
| Majors in literature and language group | .34 | 221 |
| Majors in history and political science group | .54 | 88 |
| Average grade of all history and political science students (not majors only) | .55 | 211 |
| Total average college grade | .56 | 300 |

Thus it appears that status in the history and political science group is almost as good a prediction of later success in law school as the average of all the college grades together, whereas the status of students in French has very nearly a pure chance relationship to later success in law school. The inference is clear that in professional guidance we must not only emphasize general excellence but also take account of the subject-matter in which achievement is excellent.

These figures are in themselves not important. I cite them merely as one small bit of evidence which indicates and justifies a widespread revival of interest in the specific achievement of students for vocational guidance purposes. Since the great war we have had a great efflorescence of research with intelligence tests and special aptitude tests of all sorts. In spite of the large measure of success which our experiments with such tests have enjoyed there is, in my humble opinion, a definite turning to the subject matters of the curriculum for vocational guidance data. It is to be noticed that this new tendency is not a break from the testing technique; it is, on the contrary, a natural and logical development of the testing technique.

In Columbia College, for example, the intelligence tests have been used continuously since 1919. The Thorndike Test of Intelligence for High School Graduates has been found to be the best single criterion for admission to college that we have used in Columbia College. Similarly, the Thorndike Special Intelligence Test, used in the Columbia Law School, predicts success in law school better than the average college grade does. These intelligence tests predict success during the first two college years approximately as accurately as the first year in college predicts success in the second year, that is, 0.67 as compared with 0.70. It is clear from these figures that the admission criteria can not be very much improved until the measures of success in college are more accurate and significant. The logical "next step," therefore, would be to study methods for measuring higher educational achievement, and such studies have been going on in the office of the dean of Columbia College for more than three years past. The new type tests are now a regular part of the examination machinery in more than a dozen departments of Columbia College and in several of the professional schools of Columbia University. In these departments reliability of the college grades has been raised from an average of about 0.6 to an average of about 0.85.

A study of the relationships between achievement in specific college courses and achievement in the specific professional courses, based upon these more reliable grades, might result in such high correlations as to give us decisive bases for educational and professional advice—particularly if used in combination with all other types of available information. Something of this sort is indicated by the history of the placement tests which have been used in Columbia College experimentally for two years.

The revival of interest in the achievement of students in particular subject matters is merely one manifestation of the desire of educational administrators to get as complete a picture of the individual student as possible. There was a time when at least mild hopes were entertained that some test or tests might turn out to be panaceas to cure all the misfits and maladjustments in the whole educational ladder. This hope, if it ever existed, has given way to the sober realization that in so complex a problem, into which so many currents and cross-currents of personality and interest, and social and economic opportunity enter, there can be no panacea and that the best we can do is to increase and make more exact and more conveniently available information about the individual students that we are concerned with. In this

connection it has recently been widely noticed that very little use is being made, and that very little use can be made under the present system, of the previous school records that students present. The chaotic character of these records, dependent as they are upon local standards and local curricula, called into being such examining agencies as the College Entrance Examination Board and the Middle States Board, etc. We still hear invidious comparisons made between the prophetic powers of high school records and of college entrance examinations. In general the faith of colleges seems to favor the college entrance examinations more than the secondary school records. In the great cosmopolitan colleges which draw their students from all parts of the country, College Entrance Board examinations do predict college success better than the average high school grades. But wherever a large number of students goes from one first-class high school to one college, the high school record has been found to be a very much better prediction of college success than the college Entrance Board examinations. This would seem to indicate that while our lack of faith in high school records is justified, our lack of faith in the value of the high school experience is not justified. More positively it indicates that if we had more accurate and more complete records of the high school experience, college entrance examinations might not be necessary. Our recent experience with new methods for the measurement of specific achievement is sufficient to convince us that it is now possible to secure objective, reliable, significant and comparable measures of specific achievement throughout the whole educational ladder and it is only natural that there should be a strong demand for the realization of these much-hoped for possibilities.

In my opinion our teaching would be several times as efficient as it is now if a fourth of the present teaching energy could be diverted from teaching individuals to learning individuals and to making the results of such learning available in understandable terms at the right time and place.

Recognizing the fundamental prerequisite for vocational guidance to be accurate measures of all educational products, since the knowable value of all prognostic devices ultimately depends upon their correlations with school products, we are setting the whole energy of the Research Bureau in Columbia College, under the leadership of Dean Hawkes, to the task of developing means for the measurement of achievement in college and professional school courses which may give us reliable and comparable data. In last analysis the quality of our guidance depends upon the character and completeness of the data which are available on each individual student.

It may be of value to attempt a specific and detailed answer to the question, "Why is our college guidance so ineffective and what is the remedy?" The first part is easier to answer than the second, but the answer to the second depends on the answer to the first.

1. Our guidance is bad, in the first place, because the information that we do have comes to us too late. I have heard college deans say that very often they knew enough about a particular student in his senior year to advise the student wisely about his college education. Even if this information were available at the beginning of the freshman year, it would in many cases be too late to help matters very much, because by that time the student's habits are fairly well-set. Even Phi Beta Kappa material may be degenerated into college failures, partial or complete, by misplacement throughout the grammar and high school years.

2. The information is never complete. Not only are the important factors of habits, character and attitudes left to the oblivion of the opinion of comparative strangers, but many of the significant and extracurricular experiences of the student are generally omitted from the records.

3. It is often very inaccurate. For those who have read the scientific literature of the past decade on school examinations this assertion needs no comment.

4. It is rarely, if ever, stated in comparable units for any large body of students such as the average American college has to deal with.

5. In addition to these weaknesses, it is rarely possible to guess successfully the meaning of many of the grades on the record card of a given student. A grade in a given course may really mean almost anything from actual achievement in that subject-matter to the pri-

vate personal opinion of the teacher about the student.

6. The information about students, such as it is, is frequently scattered and not available at the time and place where it could be used. I estimate that less than one per cent. of the significant information which high school teachers learn about students reaches the college at the right time and in understandable units. There is neither a common language between lower and higher education, nor an adequate liaison system.

7. At their best, the records which we get give only an instantaneous picture of the individual, that is, his reaction to certain examinations taken at the end of his high school course. They give us no reliable intimations of how the capacity for making such a reaction developed, nor how representative of the student that reaction is.

8. The records consist too much of opinions and general feelings of teachers about students, and too little of actual facts about those students especially in regard to personality and character qualities and effective interests.

9. Finally, even the very best prognostic tests given at college entrance time are very unreliable, because of the advanced age and variations in the age of students entering college. Other things being equal, the testing of students becomes more difficult as we go up the chronological age scale. The personality of the student becomes much more complex, and his capacities become hedged about with a multiplicity of habits and interests, all of which have to be penetrated by tests given in the college years. We should, of course, give tests during the college years, but my point is that these tests would be much more illuminating if they were preceded by many other tests given during the grammar and high school years.

These loopholes in our present system of guidance define the first remedial steps. We must have closer cooperation between the colleges and the lower schools. The collegiate personnel problem is only an indivisible part or aspect of the whole educational personnel problem, and it can not be hopefully attacked other than as a continuous part. The center of gravity of the educational personnel problem is in the junior high school, and I feel that the major part of the collegiate personnel problem can be solved economically only during the high school years.

The lower schools should make reliable and comparable measurements of the abilities of their students available to the colleges. We should demand cumulative records of achievement based on objective and reliable measures of known significance. A fair number of secondary schools are already in a position to give us cumulative records of such objective measures, but no channels of communication exist whereby the colleges might get them at the right time in usable form. In some cases our colleges have not provided administrative facilities for using to full advantage the information which lower schools are able and willing to furnish.

When all lower schools are able to furnish adequate records, college admissions may begin where they should always begin, during the first high school years. There will then be time to separate the college material from the rabble and the most advantageous grooming given to those who must in future bear the intellectual burdens of civilization. Admission may then become active selection rather than passive acceptance of the best of those who happen for one reason or another to apply for admission to college. We do not know how many college grade students now fail to get to college. The highest duty of the college is to search out, identify and educate all the potentially creative minds and temperaments that are born to each generation. They are few enough at best, and I am very sure that we do not get all of them now. We do get a lot of inferior minds who do nothing for us but lower our standards and make college a bore and a breeder of bad habits and bad attitudes for our good students; and all we do for these inferior minds is to make them fear or hate the muse of scholarship.

It is clear that such a system as I propose will cost much work and money. But I feel perfectly certain that we shall never improve our guidance very much until we have achieved full cooperation and mutual understanding, based upon common or comparable units of personnel data, with the lower schools.

BEN D. WOOD

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